

Notice of Allowability

Application No.

09/774,067

Examiner

Scott A Rogers

Applicant(s)

THOMPSON ET AL.

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-44.
3. ☒ The drawings filed on 01 May 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |


SCOTT ROGERS
PRIMARY EXAMINER

Examiner's Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Referring to claims 1-44, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, calculating errors corresponding to a plurality of different viewing conditions of a halftone image and minimizing a function of errors such that the halftone image appears as a different or same image under different viewing conditions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schweid et al (US 6603575 B2, US 6353687 B1, and US 6061143 A) discloses a system that compensates for a printer's inability to render isolated subpixels when using high addressability error diffusion to process the image data, by eliminating the isolated subpixels. The present invention also proposes updating the error propagated in the error diffusion process to account for modifications in the subpixel data stream. This improves the image quality of images processed using subpixel elimination in an error diffusion process by reducing the magnitude of the error signal, which is calculated and

propagated, to pixels in the slow-scan direction after subpixel elimination. In other words, the present invention reduces the variance of the modified error signal but keeps the overall sum of error unchanged.

Yamada et al (US 6556214 B1) uses error diffusion patterns in a way that a succession of light pixels is not produced in the horizontal direction. Dark and light pixels alternate, so that deterioration in image quality is avoided. By changing the combinations of the weightings included in the error diffusion patterns, fluctuations in the total error weighting can be increased or decreased.

Ilbery et al (US 6476934 B1) discloses a method that involves choosing the halftone output for the current pixel, which minimizes the product of the error at the current pixel with a weighted sum of errors of processed pixels, which have the same sign as the error at the current pixel. With this method of determining the halftone output of a current pixel, separate running sums must be maintained for positive and negative signed errors.

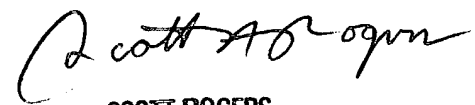
Yoshida (US 6091858 A) discloses an error diffusion image conversion process employing a minimized average error method is whereby the sum of errors obtained at the already-processed preceding pixels is calculated, and if the calculated value is smaller than a predetermined negative value, the absolute of the error, which will be distributed to unprocessed neighboring pixels, is adjusted to be decreased. According to this adjustment operation, therefore, turned-ON dots will appear even at the transition area from the high density region toward the low density region and it is possible to prevent occurrence of the undesirable whitened operation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers whose telephone number is 703-305-4726. The examiner can normally be reached on Monday & Wednesday 6:00am-6:00pm and Tuesday & Thursday 6:00am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Williams can be reached on 305-4863.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at 703-306-0377. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SCOTT ROGERS
PRIMARY EXAMINER

32 October 2004